

Application No. 10/029,350
Docket No. 13DV-14197
Amendment dated January 8, 2004
Reply to Office Action of November 8, 2003

REMARKS

In the Office Action, the Examiner reviewed claims 1-20 of the above-identified US Patent Application, with the result that claims 1-5 and 8-12 were rejected under 35 USC §103 as being unpatentable over U.S. Patent No. 3,607,398 to Lucas, and claims 6, 7, and 13-20 were rejected under 35 USC §103 as being unpatentable over Lucas in view of U.S. Patent No. 6,174,488 to Das et al. (Das). In response, Applicants have amended the claims as set forth above. More particularly:

Independent claims 1 and 13 have been amended to specify that the aqueous solution consists of (instead of "consisting essentially of") about 50 volume percent nitric acid and about 50 volume percent phosphoric acid. Support for these amendments can be found in Applicants' specification at paragraph [0022].

Independent claim 13 has been further amended to specify that the component is formed of a nickel or cobalt-base superalloy. Support for this amendment can be found in Applicants' specification at paragraph [0018].

Dependent claims 2 and 14 have been amended to clarify that the aqueous solution consists of HNO_3 , H_3PO_4 , and water (as taught in Applicants' specification at paragraph [0022]), and claims 3 and 15 have been canceled as being superfluous in view of the amendments to their parent claims 1 and 13.

Applicants believe that the above amendments do not present new matter. Favorable reconsideration and allowance of remaining claims 1, 2, 4-14, and 16-20 are

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respectfully requested in view of the above amendments and the following remarks.

Rejections under 35 USC §103

Applicants' amended independent claims 1 and 13 recite a process by which an aluminide coating can be selectively removed using a solution consisting only of phosphoric and nitric acids when the solution is maintained at a temperature of between 70°C and 80°C (about 160°F to about 180°F). As indicated above, independent claims 1 and 13 and their remaining dependent claims were rejected under 35 USC §103(a) as being unpatentable over Lucas alone or in combination with Das. Lucas was cited as teaching that an aluminide coating can be removed with a solution consisting of phosphoric, nitric and acetic acids at a temperature of between 130°F and 220°F (about 54°C to about 104°C). The rejection was based on Lucas' Table 1 showing two formulations of the solution in which acetic acid was omitted.

Lucas does not disclose why the preferred solution contains phosphoric acid, nitric acid, and acetic acid, or under what conditions acetic acid can be omitted from the solution. The two solutions in which Lucas omits acetic acid are limited to those in which phosphoric acid constitutes at least 67 volume percent of the solution (the balance being nitric acid). Accordingly, Lucas neither discloses Applicants' claimed solution of 50/50 phosphoric and nitric acid, nor teaches that Applicants' solution is operable to selectively strip an aluminide coating.

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Applicants teach that

Below the preferred temperature range [of about 160-180°F], the activity of the solution is insufficient to remove the additive layer 22, while treatment temperatures above this range can result in attack of the superalloy substrate.

In view of the above, Applicants teach that their acetic acid-free solution is inoperable below about 160°F and unusable above 180°F. In contrast, Lucas teaches that his solution is operable at temperatures below 160°F and can be used at temperatures above 180°F without “any attack or intergranular corrosion of the part being treated” (column 2, lines 32-35). Accordingly, it is apparent that Lucas did not prepare and evaluate a solution similar to Applicants’.

In summary, Applicants believe that their process employs a solution that is not taught by Lucas and has a narrow operable treatment temperature not taught or suggested by Lucas. Therefore, to arrive at Applicants’ invention, one skilled in the art would be required to modify the teachings of Lucas. However,

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the *prior art* suggested the desirability of the modification. (Emphasis added.)

In re Fritch, 23 USPQ2D 1780, 1783-1784 (Fed. Cir. 1992).

Consequently, the prior art must suggest the desirability of the modification. However,

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Lucas does not disclose an acetic acid-free solution that contains less than 67 volume percent phosphoric acid, and Lucas does not provide any motivation to reduce the amount of phosphoric acid to the level taught and claimed by Applicants. Therefore, Applicants believe their invention is unobvious over Lucas, and respectfully request withdrawal of the first rejection of the claims under 35 USC §103.

Das was merely applied against claims 6, 7, and 13-20 for teaching platinum aluminide coatings and aluminide coatings having thicknesses that overlap the ranges recited in Applicants' claims. Therefore, Applicants believe that Das cannot be said to supplement the teachings of Lucas in order to arrive at Applicants' invention. Furthermore, Lucas does not disclose or suggest that his solution is capable of removing a platinum aluminide coating, as required by Applicants' claims 7 and 18. Therefore, Applicants also believe that the combination of Lucas and Das does not obviate claims 7 and 18. For these reasons, Applicants respectfully request withdrawal of the second rejection under 35 USC §103.

Closing

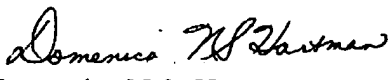
In view of the above, Applicants believe that the rejections to their claims have been overcome, and that the claims define patentable novelty over all the references, alone or in combination, of record. It is therefore respectfully requested that

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this patent application be given favorable reconsideration.

Should the Examiner have any questions with respect to any matter now of record, Applicants' representative may be reached at (219) 462-4999.

Respectfully submitted,

By 
Domenica N.S. Hartman
Reg. No. 32,701

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Hartman & Hartman, P.C.
Valparaiso, Indiana 46383
TEL.: (219) 462-4999
FAX: (219) 464-1166